

REMARKS

Claims 1-5 are canceled, and new claims 6-9 are added. Claims 6-9 are pending.

The amendments to the figures and claims are based on the application as originally filed, so it is respectfully submitted that no new matter has been added.

In the office action, it is stated that FIGS. 1-2 should be designated as "prior art". Replacement FIGS. 1-2 are submitted herewith incorporating the proposed amendments to the drawings.

In the office action, claim 4 was rejected under 35 U.S.C. § 112, first paragraph. Claim 4 was canceled, and new claim 8 has been added which depends from new claim 6 through new claim 7, and incorporates the subject matter of canceled claim 4.

The subject matter of claim 8 meets the requirements of 35 U.S.C. § 112, first paragraph, since the recitation of claim 8 is supported by the application as originally filed. In particular, at page 7, lines 15-21 and FIGS. 1-2, a second fluid passage P2 is integrated to a wall CC of the cylinder CY, as shown in FIG. 1, as a passage having the first end 40 of the second fluid passage P2 connected to a second aperture "2nd" of the valve housing 21, and having the second end 41 of the second fluid passage P2 connected to a lower part of the cylinder CY in communication with the internal passage 13 of the cylinder CY. Accordingly, no new matter has been added.

Therefore, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph are respectfully requested.

In the office action, claims 1-5 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1-5 have been canceled, and new claims 6-9 are added.

It is respectfully submitted that new claims 6-9 meet the requirements under 35 U.S.C. § 112, second paragraph, and that the points raised by the examiner regarding canceled claims 1-5 have been addressed in the recitation of new claims 6-9. Therefore, reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph are respectfully requested.

In the office action, claims 1-5 were rejected under 35 U.S.C. § 103(a) in view of U.S. Patent Number 4,082,108 to Dininio and U.S. Patent Number 5,853,449 to Pilskaer et al. Claims 1-5 have been canceled, without prejudice or disclaimer.

It is respectfully submitted that new claims 6-9 are patentable over Dininio and/or Pilskaer.

As the Examiner comments, Dininio describes a well known valve block assemblies for pneumatic cylinder and piston actuators. Dininio specifically recites a valve block having at least two rows of valve stations arranged parallel to one another; a separate air supply manifold communicating with each of the rows of valve stations for supplying pressurized air to the valve stations; a separate air exhaust manifold communicating with each of the rows of valve stations for exhausting air from the valve stations; a cartridge valve disposed at each of the valve stations for controlling the flow of air through a respective valve station; an outlet conduit forming a flow path away from each of the cartridge valves; a flow control valve disposed within the outlet conduits; a check valve disposed within at least one of the outlet conduits, all the flow control and check valves being between elevations of the manifolds; and means for retaining each the check valves within its respective outlet conduit, the retaining means being removable from a front face of the valve block.

As described in the present application, the forming and handling mechanisms are coupled to the piston rod of the cylinder and piston assemblies which are connected to an operating fluid source by means of a network of rigid metallic conduits, screwed to the cylinder and piston assemblies. Usually, the feeding and discharging of fluid is controlled by the needle valves provided at the rigid metallic conduits, for controlling the speed of the ascending and descending runs of the piston of the cylinder and piston assemblies.

However, in the prior art, whenever maintenance is needed for cleaning purposes or for repairing or replacing parts of the cylinder and piston assemblies or whenever changing of mechanisms or parts thereof are needed, for example, when it is necessary to produce different types of glassware articles at the glassware forming machine, it is first necessary in the prior art to unscrew each and every one of the rigid conduits connected to the cylinder and piston assemblies and afterwards, if necessary, to separate the cylinder and piston assembly from the operating mechanisms, all of which is a cumbersome task, takes a lot of time, and is the cause of deformation and breaking of the rigid metallic conduits, impacting in the costs of the production.

As recited in the claims of the present application, in seeking for an economic, simple, easy and rapid changing of the mechanisms, applicants propose a new fluid administration system for the operation of cylinder and piston assemblies, which is integrated to the cylinder cap of the cylinder and piston assembly, eliminating in this way all of the rigid metallic conduits which were used for feeding fluid and for controlling the discharge of fluid and speed of the ascending and descending runs of the piston of the cylinder and piston assembly of the forming and handling mechanisms, and which can be

coupled and detached from the machine in a single operation, without the need of unscrew and then screw each and every conduit thereof, and which results in a universal, economical, and practical system.

The fluid administration system is generally constituted by a network of fluid inlet and outlet passages connected to the feeding and discharging passages of a cylinder, a centering ring, and a support frame of the machine for the operation of actuating mechanisms; a network of fluid feeding and discharging passages provided at the cylinder, the centering ring and the support frame, with the network integral to a cylinder cap of the cylinder to provide operating fluid to the cylinder and piston assembly for ascending and descending runs of the piston and allow the discharging of fluid from the cylinder and piston assembly; a passage network provided at the cylinder cap, connected to the network of fluid feeding and discharging passages; speed-control valve means located in each passage of the passage network, to control the speed of discharging of fluid from the cylinder and piston assembly and the speed of the ascending and descending runs of the piston of the cylinder and piston assemblies; and, a reel valve placed into the valve housing, the reel valve having at least a connection, which are operated by a pilot fluid feed through a piloting conduit connected to a lower end of the valve housing to an upper fluid-feed aperture.

The objective of the present application is to provide a fluid administration system for the operation of cylinder and piston assemblies, which is integrated to the cylinder cap of the cylinder and piston assembly, allowing elimination of the usual network of rigid metallic conduits thereof.

Dininio does not teach and does not suggest a fluid administration system for the operation of cylinder and piston assemblies as the described in the present invention in new claims 6-9.

The Pilskaer et al. patent describes a plunger mechanism for a IS machine. The plunger mechanism comprising a vertically extending cylindrical plunger canister having a bottom surface and including a plurality of service air conduits with each conduit having an inlet port communicating with the bottom surface. A plunger distribution plate below the plunger canister having a top surface and including a corresponding plurality of service air conduits which are to be connected to the plunger canister service air conduits with each plunger distribution plate conduit having an outlet port communicating with the top surface. At least one outlet port of the plurality of service air conduits in the plunger distribution plate which are to be connected to the plunger canister service air conduits being axially offset from the corresponding inlet port of the plunger canister. A transition plate intermediate the plunger canister and the plunger distribution plate having a bottom surface for engaging the top surface of the plunger distribution plate and a top surface.

However, as is showed in FIG. 32 of Pilskaer, each plunger canister 62 has an upper cylinder portion 63 and a lower cylinder portion 64 with plugs 65 supporting “O” ring seals 71 and an exhaust duct 73 extending axially downwardly from the bottom surface 75 of the lower cylinder to connect the plunger canister to required services (plunger cooling, exhaust, plunger down, plunger up, counterblow/vacuum (in blow and blow machines) or plunger cooling (in press and blow machines), lubrication, separate

thimble up). The canister may exhaust through the upper cylinder and in that case the exhaust duct and associated ducting shown would not be required.

The present application is not directed to a specific mechanism using a vertically extending cylindrical plunger canister to be adapted to a plunger. On the contrary, the present invention is directed to a fluid administration system for the operation of cylinder and piston assemblies, which is integrated to the cylinder cap of the cylinder and piston assembly, allowing elimination of the usual network of rigid metallic conduits thereof.

From the analysis of the patents above cited, many forming and handling mechanisms are coupled to a piston rod of cylinder and piston assemblies which are connected to an operating fluid source by means of a series of rigid metallic conduits, screwed to the cylinder and piston assemblies. Usually, the feeding and discharging of fluid is controlled by the needle valves provided at the rigid metallic conduits, for controlling the speed of the ascending and descending runs of the piston of the cylinder and piston assemblies.

However, in the prior art with respect to the present application, whenever maintenance is needed for cleaning purposes or for repairing or replacing parts of the cylinder and piston assemblies or whenever changing of mechanisms or parts thereof are needed, it is firstly necessary to unscrew each and every one of the rigid conduits connected to the cylinder and piston assemblies and afterwards, if necessary, to separate the cylinder and piston assembly from the operating mechanisms, all of which is a cumbersome task, takes a lot of time, and is the cause of deformation and breaking of the rigid metallic conduits, impacting in the costs of the production. For example, FIG. 32 of the Pilskaer et al. patent shows each plunger mechanism 62 which includes a series of

conduits to carry out the following operations: plunger cooling exhaust, plunger down, plunger up, counter blow/vacuum, lubrication, thimble up, so that each operation requires an associated conduit which is necessary to connect and disconnect to each one of the parts of the plunger mechanism 32, which represents a disadvantage with respect to the present application.

For the above reasons, none of the patents cited by the examiner describes or suggest an arrangement as in the claimed invention, including a fluid administration system that includes a network of fluid feeding and discharging passages provided at the cylinder, the centering ring and the support frame and integral to the cylinder cap to provide operating fluid to the cylinder and piston assembly for ascending and descending runs of the piston and allow the discharging of fluid from the cylinder and piston assembly, as is described in the new claims 6-9.

Furthermore, for the above reasons, the fluid administration system for the operation of cylinder and piston assemblies of the present invention is novel and non-obvious in view of Dininio and/or Pilskaer et al., and therefore, the subject matter of the present invention is not obvious for a person skilled in the art, and subsequently is clearly based upon an inventive step.

It is respectfully submitted that the suggestion is not valid that it would have obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the modular design of Pilskaer et al. into the fluid distribution of Dininio by connecting Dininio's valve block through Pilskaer et al. conjunction box, since the opinion of the examiner has referred to nothing in the prior art relied upon that would

suggest that the Pilskaer and/or Dininio patents may be combined in this way and the attempted combination is submitted to be one of hindsight.

From the above, the present invention is not and cannot be considered as being anticipated by or obvious in view of the prior art. As applicant has previously demonstrated, the fluid administration system for the operation of cylinder and piston assemblies is arranged in an entirely different form from the previous art cited by the Examiner and with a different combination of components.

In conclusion, the subject fluid administration system for the operation of cylinder and piston assemblies of the new claims 6-9 is novel and non-obvious, and therefore patentable over the combination of the prior art reported in the office action, since it employs a non-obvious sequence of steps, and/or combination of components which are neither taught nor suggested by the art.

Accordingly, entry and approval of the present amendment and allowance of all pending claims are respectfully requested.

In case of any deficiencies in fees by submission of the present amendment, the Commissioner is hereby authorized to charge such deficiencies in fees to Deposit Account Number 01-0035.

Respectfully submitted,



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